

Stock assessment of Salmon Lake Sockeye and Coho Salmon 2001

Abstract: A stock assessment of sockeye (*Oncorhynchus nerka*) and coho (*Oncorhynchus kisutch*) salmon at Salmon Lake was begun in 2001. A floating weir and field camp were established at the outlet of the lake to enumerate and sample returning sockeye and coho between June 1 and October 31, 2001. In addition to the floating weir, mark-recapture experiments were done to estimate total escapements into the lake. We estimate that 1,941 adult sockeye (SE = 103) and 588 jack sockeye (SE = 103) for a total of 2,529 (SE = 282) sockeye (both adults and jacks) entered Salmon Lake and 1,424 adult coho (SE = 48) and 293 jack coho (SE = 82) for a total of 1,717 (SE = 94) coho (both adults and jacks) entered Salmon Lake in 2001. Underwater snorkel counts represented approximately 2.7% of the estimated sockeye escapement and 4.8% of the coho escapement. A total lake population of 44,000 sockeye salmon fry and 1,000 sticklebacks were estimated from hydroacoustic analysis and the estimated density of sockeye salmon fry in Salmon Lake is 0.140 fry · m⁻². This population of sockeye salmon fry is expected to produce approximately 31,000 smolt in spring 2002, based on 70% overwinter survival. In October 2001 4,985 coho presmolt ≥85 mm were tagged with coded-wire tags and released in Salmon Lake. The mean weight of tagged coho salmon pre-smolt was 12.1 g (SE = 0.24). Mean length was 103.3 mm (SE = 0.060).

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